

Salt Creek Tiger Beetle Cabinet Report Update

Final Draft of Preliminary Findings

December 13, 2001

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Salt Creek Tiger Beetle Cabinet Report Update, December 13, 2001

PURPOSE: The Salt Creek Tiger Beetle Cabinet was convened by the Mayor's office to obtain input and expertise from a diversity of stakeholders in consideration of ensuring the survival of the Salt Creek Tiger Beetle, as the City of Lincoln continues to develop in areas proximate to the Tiger Beetle's critical habitat. Lighthouse Consulting has facilitated five weekly meetings, beginning November 8, 2001 (Section Two), to obtain the most current information regarding Tiger Beetle biology, habitat, and research needs from the scientific community and agency personnel. Concerns, issues, and opportunities were brought forward by representatives of the development community, property owners, Lancaster County, and City Departments. It was suggested that a two-tiered approach be taken to the management effort.

SHORT TERM RECOMMENDATIONS: That the Mayor accept the report and direct staff immediately to:

1. Brief the County Board of Commissioners on the process, findings, and recommendations of this Cabinet.
2. Determine measures that could be taken immediately to enhance and maintain existing saline wetlands, and which would reduce the potential for disastrous impacts to areas where the largest Tiger Beetle populations are found.
3. Authorize or solicit funding for research regarding a) the characterization of the hydrology/hydrogeology of the habitat area, b) determination of impacts of basin-wide land use changes and human activities on the Salt Creek Tiger Beetle and saline wetlands, c) Tiger Beetle biology and habitat characterization, and d) the economic impacts of the management effort.
4. Forward a recommendation to remove the Tiger Beetle habitat (saline wetlands) and buffer zones from Tier I and II of the Comprehensive Plan until baseline research can be accomplished.
5. Initiate an on-going formal partnership between the City and other entities to address the protection of the Tiger Beetle and saline wetlands.
6. Prioritize the acquisition of land in the Salt Creek watershed to enhance protection of Tiger Beetle habitat.
7. Explore grant opportunities for wetlands preservation and enhancement.
8. Coordinate planning for protection of the Tiger Beetle and saline wetlands with the Mayor's Floodplain Taskforce.
9. Centralize or coordinate the permit process for development and construction within City and County departments, so a more effective assessment could be made of plans to expand development into areas which may negatively impact Tiger Beetle habitat.

LONG TERM RECOMMENDATIONS: That the Mayor accept the report and direct staff to:

1. Develop a Management Plan for the Salt Creek Watershed and Tiger Beetle Habitat by December, 2002.
2. Pursue an integrated, interagency, ecosystem approach to obtaining needed research information about the Tiger Beetle life history, and habitat requirements.
3. Identify and assist landowners with existing programs available to preserve wetlands on private property, and transition lands around the wetlands.
4. Investigate incentives for landowners in regard to voluntary purchases, easements etc.
5. Initiate a cooperative public education effort that would raise awareness of the Tiger Beetle and its unique habitat, and encourage the public to maintain an interest in the area.
6. Include the area of concern in the City-County Comprehensive Plan in regard to land use, stormwater volume inputs, and direction of growth.

DISCUSSION:

Situation: The basis for listing a species under the Endangered Species Act (ESA) is a) the threatened or current destruction, modification, or curtailment of a species' habitat or range, b) overutilization for commercial, recreational, scientific, or educational purposes, c) disease or predation, d) the lack of existing regulatory mechanisms, and e) other natural or man made factors affecting the species' survival (Section Three). The listing of a species can occur through the petition process, or through the candidate assessment process. The ESA provides that any person can petition the Secretary of the Interior to add to, or remove from, a species to the list of threatened and endangered species. Through the candidate assessment process, US Fish and Wildlife Service (USFWS) biologists identify species that may be candidates for listing.

John Cochran, USFWS Assistant Field Supervisor, and Robert Harms, USFWS Field Biologist, discussed with the Cabinet some elements of the process of listing the Tiger Beetle as a threatened and endangered species. The main points of discussion were as follows:

The magnitude and immediacy of a threat to the species determines whether it is listed; listing is a last ditch effort to save a species.

The USFWS is currently assessing whether the Tiger Beetle could or should be listed, and if so, whether the listing should be through an emergency or regular process.

There may be no effort that will prevent the Tiger Beetle from being listed by USFWS; it was noted that it is already listed by the State.

A species can be de-listed, or not listed if it is deemed appropriately protected. A management plan would be reviewed by USFWS to determine its effectiveness in protecting the Tiger Beetle.

If federal funds were involved in a road project, for example, the USFWS would then join the review process of any permit process for development or construction.

There may be funding available from USFWS for developing a conservation plan and further research.

Economic impacts are not measured when a species is listed.

Economic impacts are measured when a critical habitat is listed.

USFWS can propose listing a critical habitat, the State cannot.

Habitat protection and restoration, and population maintenance were noted as priorities.

Representatives from the Nebraska Game and Parks Commission (NG&PC) and the USFWS noted that should stakeholders choose not to participate in managing the area, listing of the species by USFWS would be the only remaining option. A Habitat Conservation Plan is developed by USFWS after a species has been listed.

Impact of listing on local actions: The ESA requires that any federal agency confer with USFWS to conserve endangered species on their land, and to guarantee that any activity they authorize, fund, or administer will not jeopardize the survival of a threatened or endangered species. The ESA authorizes federal funding to State departments with cooperative endangered species agreements, places restrictions on taking and trafficking, and authorizes the USFWS to seek land purchases or exchanges for critical habitat. Under the ESA, a critical habitat designation refers to a geographic area that is vital to the survival and recovery of an threatened endangered species. An important note: Endangered species and their habitat are protected whether or not they are in an area designated by the federal government as critical habitat.

The ESA also requires that USFWS take actions to not only prevent further loss of a species, but to recover the species to the extent that it may be de-listed. It is this requirement that may initiate a federal critical habitat designation. A recovery plan, which occurs after federal listing of a species, could affect areas in the Comprehensive Plan. Degraded wetland areas could be earmarked for habitat restoration, which may widen the boundaries of the designated habitat. A critical habitat designation does not affect land ownership or set up a preserve. The designation does not affect a private landowner undertaking a project on private land, unless a federal permit is needed for the action. The designation only applies to situations and activities where federal authorization, property, or funding is required. The regulatory requirements of the designation are that federal agencies must consult with the USFWS before taking any action requiring a federal authorization, permit, license, or funding that may negatively impact a listed species or destroy or adversely modify its habitat.

The USFWS has recommended to the City of Lincoln/Lancaster County Planning Department, in comments regarding the Comprehensive Plan, various zoning requirements, conditions, and prohibitions by watershed protection zones to maintain and enhance the saline wetland habitat of the Tiger Beetle (Section Two, November 8 meeting agenda and background information).

Extant distribution and stability of the beetle habitat. Members from the scientific community noted that there is very little long term information available on Tiger Beetle biology, critical habitat requirements, or the effects of human impacts on the hydrology/hydrogeology of the watershed. According NG&PC (Section Two), the Salt Creek Tiger Beetle (*Cicindela nevadica lincolniana*) is one of the rarest insects in the world, and occupies one of the most restricted ranges of any insect in the United States. The Salt Creek Tiger Beetle habitat is the eastern Nebraska saline wetlands and associated tributaries, and these wetlands are limited to Lancaster and southern Saunders Counties. The beetle is

found only in a few isolated sites in small numbers. The largest population of beetles is found near Arbor Lake. (See Map.)

Continued loss of habitat appears to be the prime factor threatening the survival of the beetle. It was expressed that 90% of the habitat has been lost to economic development of one kind or another. It was reported by NG&PC that a stream bank stabilization project in 1992 on Little Salt Creek caused the loss of approximately half of the prime beetle habitat. The Cabinet identified that in addition to the loss of wetland acres, invasive weeds and downcutting of stream banks are causing the loss of habitat for the adult Tiger Beetle and larvae.

The Cabinet recognized that urban growth within the Little Salt Creek watershed would increase the total volume of stormwater runoff into the stream channels (this is different than the flow of water during major storm events, which is required to be held back by detention) and would be expected to contribute to the continued degradation of stream channels, and therefore Tiger Beetle habitat. It was noted by members of the Cabinet that this impact would be anticipated regardless of where development occurred within the watershed, even if it were outside of buffer areas on the ridges. One outcome to identifying future urban growth in this area could be that if the Beetle is listed, the City-County may experience significant economic impacts not only to private development, but to the extension of public infrastructure to serve these areas.

Options for future action. *The development of a management plan by the Mayor's office and stakeholders, in cooperation with the USFWS, to protect the Tiger Beetle and saline wetlands will guarantee local input on how development occurs in areas that support Tiger Beetle populations. The north entrance to the City of Lincoln by way of 27th street could be proposed as a model of innovative community design.*

Actions taken to conserve the Tiger Beetle habitat need to be balanced with economic concerns. Some members of the Cabinet questioned the purpose of developing a management plan to protect the Tiger Beetle and its habitat. Certain areas of the saline wetlands are currently regulated and managed, or have already been removed from the new Comprehensive Planning Committee draft of the Comprehensive Plan. An article published in Scientific American was discussed which suggested that a species may become extinct as a result of natural factors, and those factors may be difficult to discern from the impacts of human activities. The Cabinet deemed it important to identify cost share programs that would assist landowners with leaving acres in agriculture, protecting wetland acres on private property, and providing buffer zones to the sensitive landscape. A short list of currently available cost share programs was compiled and included in this report (Section Four).

The establishment of a coalition between the City, County, and other interested entities will provide a vehicle for streamlining the development and construction permit process, funding issues, purchase of wetland acres and easements, and wetland management.

Incentives offered by Lincoln and Lancaster County to developers and landowners regarding development design and conservation programs will be key to gaining the support of stakeholders in the watershed. The Cabinet acknowledged that there is a perception amongst landowners that a management plan to protect the Tiger Beetle and its critical habitat would prevent land owners from developing and getting the 'best price' for their property as Lincoln expands in that direction, or that planned development means no development. There was concern expressed by some Cabinet members

about property right infringement, decreasing property values, right to sell, and the impacts of a designated habitat on the practices of neighboring property owners.

The critical habitat area and any buffer zones on tributaries to Salt Creek need to be estimated for the short term. Ted LaGrange, NG&PC, in a meeting with the Little Salt Vally Planning Cooperative suggested that buffer zones from 100 feet to 200 feet wide were generally considered inadequate. Buffer zones of 200 feet to a quarter of a mile wide in some stretches may provide an adequate buffer to the sensitive landscape. In regard to protecting critical habitat areas, spring seeps on hillsides contribute to Category I Saline Wetlands, and those areas should also be considered as part of the habitat.

A public education program will increase awareness and interest in the Tiger Beetle and saline wetlands, and help maintain the public's involvement in the development of the community. An outcome of an effort to protect the Tiger Beetle and saline wetlands could be the establishment of an outdoor classroom area which is unparalleled in its ecology.

Required needs for additional study: Olsson Associates have provided a draft outline of a hydrology/hydrogeology research investigation (Section Five) to the Cabinet. The study would characterize the hydrology/hydrogeology of the critical habitat areas, and determine the impacts of basin-wide land use changes and human activities on the Salt Creek Tiger Beetle. The investigation would be conducted within a framework of an integrated ecosystem analysis addressing the physical, chemical, biological, ecological, and socio-economic issues related to the habitat areas. The study would take place over an estimated 2 years and require a budget of \$250,000 - \$350,000, depending on the scope of the area characterized, the extent of monitoring, and the length of the investigation.

Potential research needs for characterizing the Tiger Beetle biology and critical habitat have been proposed by Leon Higley and Steve Spomer, University of Nebraska/Entomology Department (Section Five). Cost estimates of the planned research activities for one year include a M.S. graduate student assistantship, and laboratory and field supplies. (See Table 1.) Generally, research could start sometime in the spring of 2002. Some assessments regarding Tiger Beetle biology could be made by summer 2002, other determinations would require multiple years.

Generally, it was determined by consensus that identifying long term funding and staff for the implementation phase of the proposed recommendations, should they be acceptable to the Mayor and City Council, was beyond the scope of this Cabinet.

Table 1. Budget

ITEM CATEGORIES	Grant Request	Cost Sharing
Salary and wages		
Professionals	0	\$8,800
Graduate Assistantship	\$18,000	0
Salary Subtotal:	\$18,000	\$8,800
Benefits	\$4,140	\$2,024
Salary and Benefits Sub Total:	\$22,140	\$10,824
Materials and Supplies	\$2,860	\$1,500
Travel	0	\$500
Sub Total:	\$25,500	\$12,824
Indirect Costs (43.5%)		\$16,454

Totals:	\$25,500	\$29,278
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